H50D312VU

Uni-directional ESD Protection Diode

Peak Pulse Power -1375 Watts
Reverse Working Voltage - 12V

Description

The H50D312VU is offers superior electrical characteristics such as high surge capability. It is designed to protect sensitive electronic components which are connected to power lines, from over-stress caused by ESD (Electrostatic Discharge).

Features

- 1 Channel of ESD Protection (Uni-directional)
- Peak Pulse Power :Ppp = 1375W (tp=8/20 us)
- Low Leakage Current
- Low Clamping Voltage
- IEC 61000-4-2 (ESD) :±30kV(Contact) / ±30kV(Air)

Applications

- Power Supply Protection
- Power Management
- Notebooks / Desktops / Servers
- Cell Phone Handsets and Accessories
- Portable Electronics

Mechanical Data

- Case: SOD323 Package
- Case Material: “Green” Molding Compound UL Flammability Classification Rating 94V-0
- Terminals:Matte tin plated,solderable per MIL-STD-750,method 2026
- Component in accordance to RoHS
- Halogen Free

Note: Products with logo or are made by HY Electronic (Cayman) Limited.

Ordering Information

- Package :SOD323
- Reel Size :7 (inches)
- Quantity Per Reel :3,000/Tape & Reel
- Quantity One Box :45,000/Tape & Reel
- Quantity One Carton :180,000/Tape & Reel

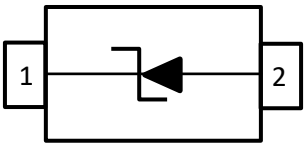
Marking Information

"H12" = Product Type Marking Code

Package Outline

SOD323 Top View

Device Schematic & PIN Configuration



Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Absolute Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P_{PP}	1375	W
Peak Pulse Current (8/20 us)	I_{PP}	50	A
ESD Protection- Contact (Standard IEC 61000-4-2)	V_{ESD}	±30	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±30	
Operating Temperature Range	T_J	-55 to +125	° C
Storage Temperature Range	T_{STG}	-55 to +150	° C
Soldering Temperature, t max =10s	T_L	260	° C

Electrical Characteristics

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	---	V_{RWM}	-	-	12	V
Reverse Breakdown Voltage	I_T= 1mA	V_B	13.5	-	-	V
Reverse Current	V_R = 12V	I_R	-	-	1.0	uA
Reverse Clamping Voltage	I_{PP} = 30A (8/20μs)	V_C	-	-	23	V
	I_{PP} = 40A (8/20μs)		-	-	24	
	I_{PP} = 50A (8/20μs)		-	-	27.5	
Junction Capacitance	V_R = 0V, F = 1MHz	Cj	-	300	400	p F

Rating and Characteristic Curves

FIG.1 - 8/20us Pulse Waveform According to IEC 61000-4-5

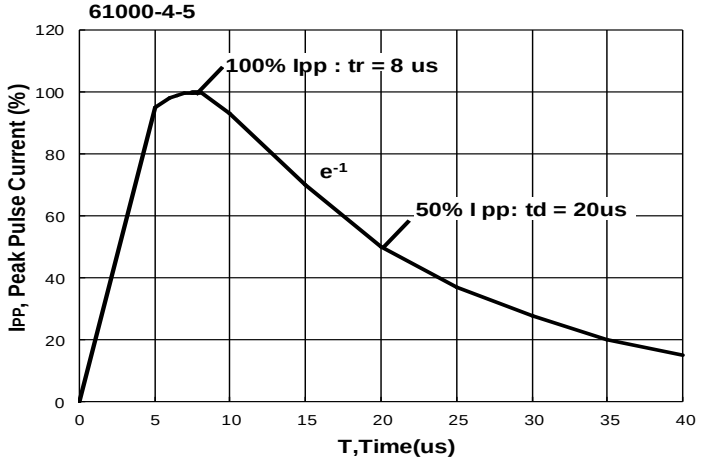


FIG.2 - Power Dissipation Versus Pulse Time

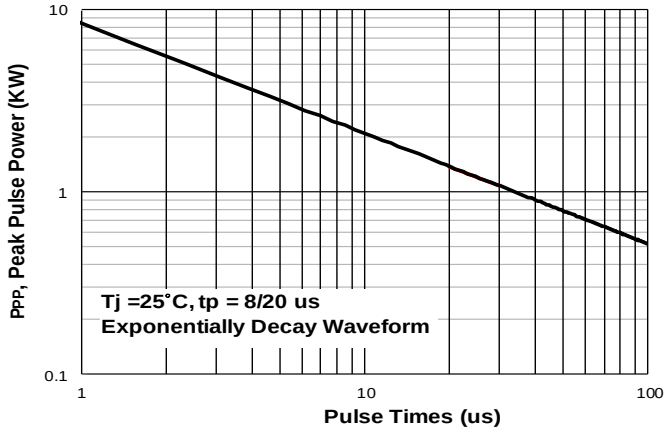


FIG.3 - Peak Pulse Power Versus Tj

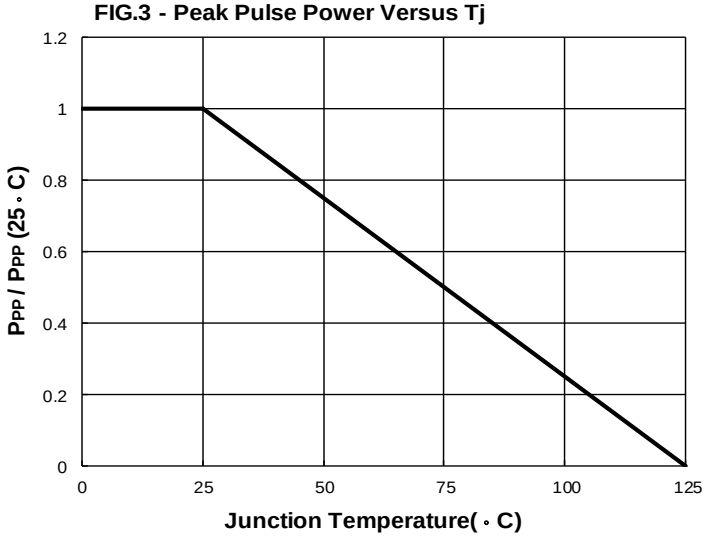
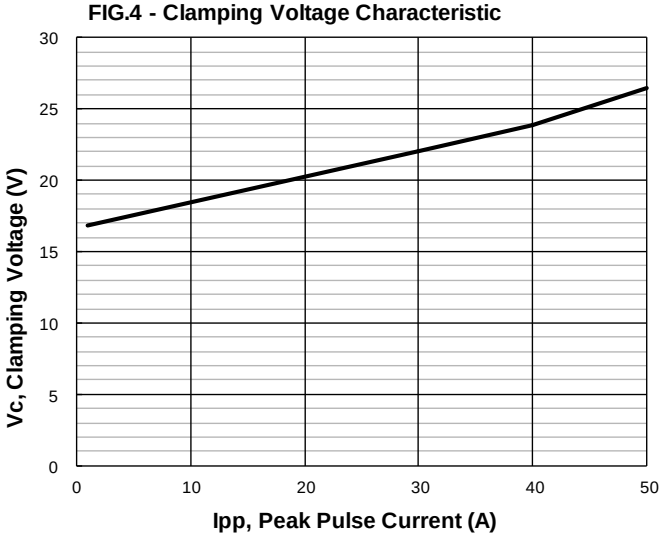
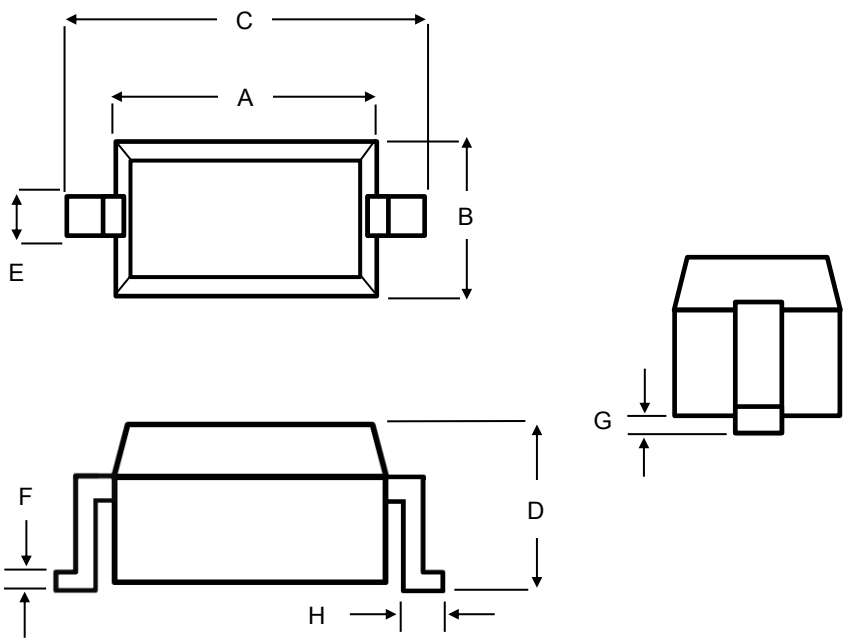


FIG.4 - Clamping Voltage Characteristic



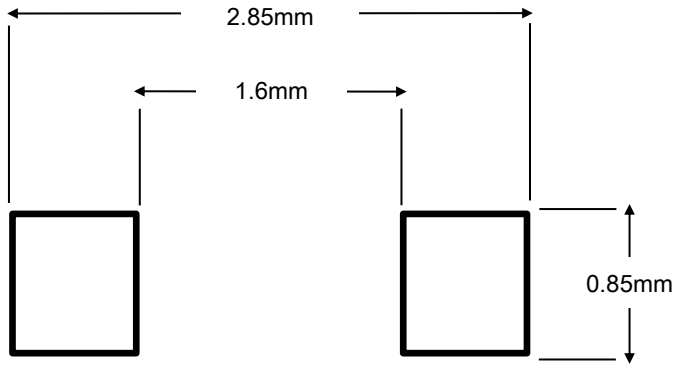
The curve above is for reference only.

Package Outline Dimensions



SOD323 Package		
Dim	Min	Max
A	1.6	1.8
B	1.2	1.4
C	2.5	2.7
D	-	1.0
E	0.25	0.35
F	0.08	0.15
G	-	0.1
H	0.25	0.4
All Dimensions in mm		

Suggested Soldering Pad Layout



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